31547
.C6

THE THREE R'S

IMPROVEMENT IN THEM
PLACE IN PRESENT COURSE OF STUDY

CLEVELAND PUBLIC SCHOOLS

THE THREE R'S

IMPROVEMENT IN THEM
PLACE IN PRESENT COURSE OF STUDY

CLEVELAND PUBLIC SCHOOLS

Cleveland O.

THE BOARD OF EDUCATION
CLEVELAND
1909.

LB1547
C6

The Board of Education

of the

City School District of the City of Cleveland

Officers

FRANCIS H HASEROT.....President
CHARLES ORR.....Director of Schools
WILLIAM H ELSON.....Superintendent of Schools
W C FISHER.....Clerk

Members

FRANCIS H HASEROT

SARAH E HYRE
SAMUEL P ORTH
GEORGE C ASHMUN
WALTER D SAYLE
JOHN C CANFIELD
WILLIAM G LEOPOLD

Educational Department

WILLIAM H ELSON.....Superintendent of Schools
HENRY C MUCKLEY.....Assistant Superintendent
WARREN E HICKS.....Assistant Superintendent
FRANK P BACHMAN.....Assistant Superintendent

School Headquarters

Rockwell Ave. and E. 6th St. (Rockwell and Bond Sts.)

AUG

TABLE OF CONTENTS

		Page
I	WIDENING CONCEPTION OF ELEMENTARY EDUCATION...	9
	Colonial Aim	9
	View of the 60's	10
	Present Purpose of Elementary School	10
	Present Course of Study	11
II	THE RISE OF CRITICISM	11
	Criticism to be Heeded	11
	Protest of the Old Against the New	12
	Findings of Educational Commission	12
	Present Attitude	12
III	PLACE ASSIGNED THE THREE R'S	13
	Time Allotted the Three R's	13
	Time Allotted in Other Cities	14
	Commanding Place in Cleveland Schools	15
IV	IMPROVEMENT IN READING	15
	Status in Course of Study	15
	Aim Made Practical	16
	Materials Adapted and Enriched	17
	The Dictionary Emphasized	17
	Methods Rendered Attractive and Effective	17
	Results	18
V	IMPROVEMENT IN SPELLING	18
	Educational Commission's Test	18
	Interest in Spelling Aroused	19
	Results of Spelling Contests	19
	The Chicago Test	20
	N. E. A. Spelling Contest	21
	Test of 1858 Re-given	21
	Inferences	21
VI	IMPROVEMENT IN WRITING	22
	Spencerian System	22
	Introduction of Vertical System	22
	The Practical Writing System	23
	Fore-arm Movement	24
	Supervisors Trebled	24
	Exhibits Installed	24
	The Outcome	25
VII	IMPROVEMENT IN ARITHMETIC	25
	Place Assigned Arithmetic	25
	Results in Arithmetic Questioned	25
	Commission's Test Re-given	26
	Test of 1856 Re-given	28
	Increased Efficiency	29
VIII	THREE R'S IN THE NORMAL SCHOOL	29
IX	CONCLUSIONS	29

Fig. 1

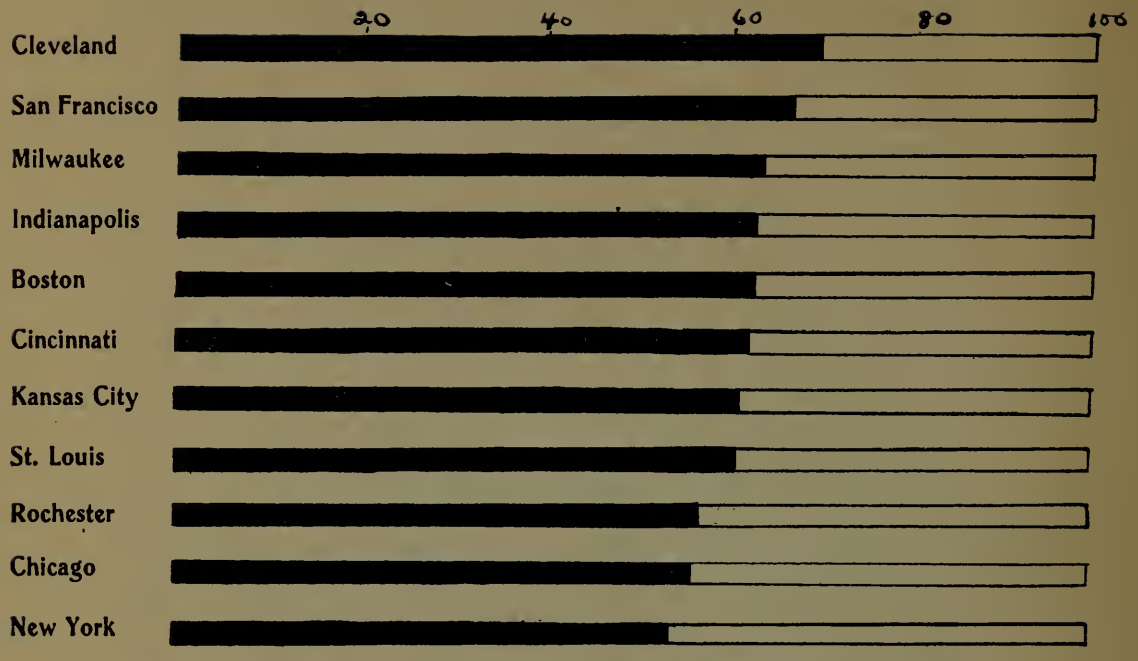

Fig. 1 Black shows part of total time of elementary school of above cities given to the three R's.

Fig. 2

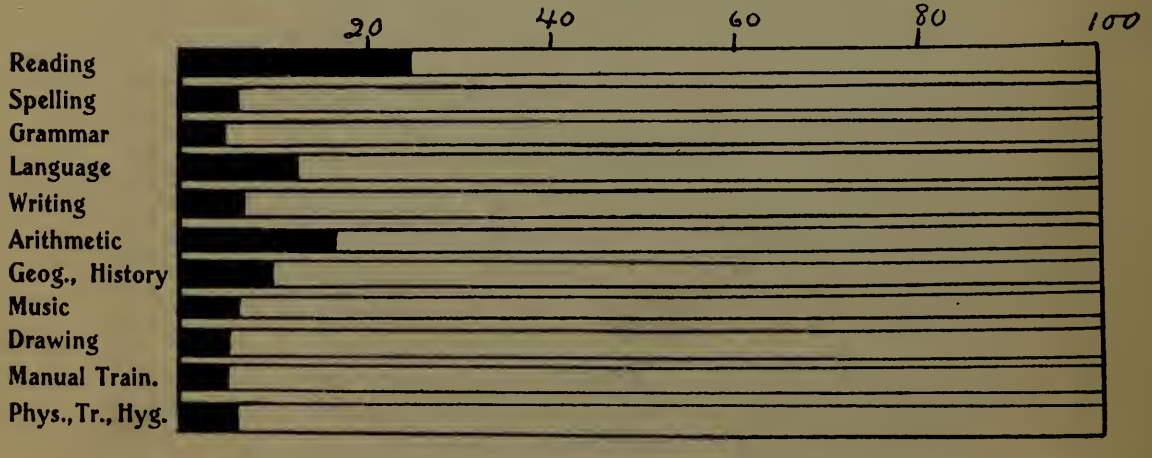

Fig. 2 Black shows part of total time of elementary schools of Cleveland devoted to Reading and to each of the other studies.

Fig. 3

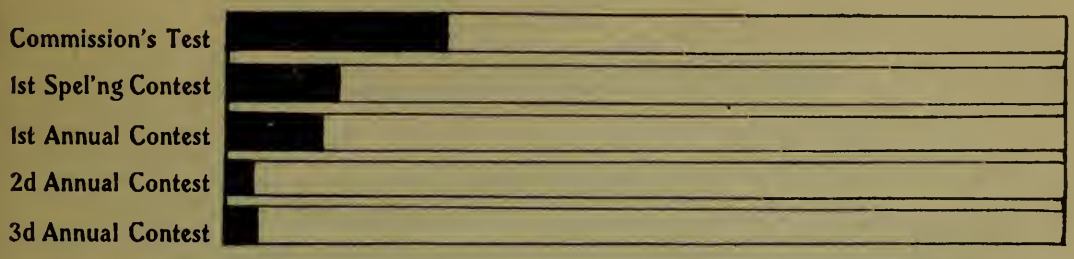

Fig. 3 Black shows part of fifty-five words misspelled in each test from Educational Commission's Spelling Test, 1905, to Third Annual Spelling Contest, 1909.

Fig. 4

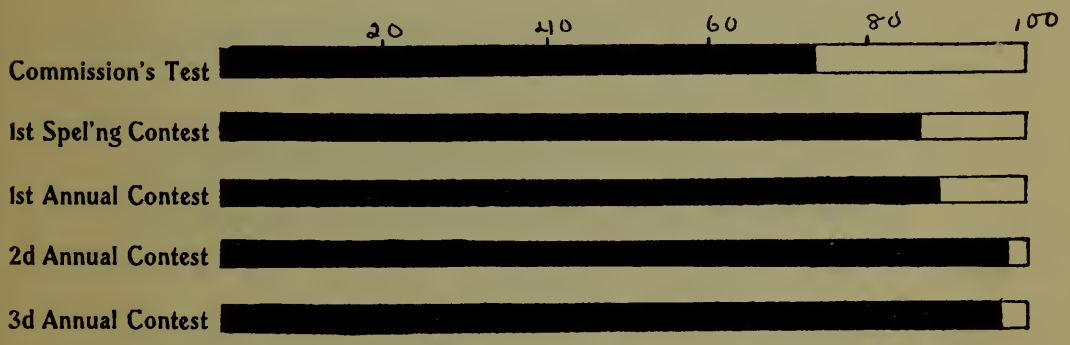

Fig. 4 Black shows increase in efficiency from Educational Commission's Spelling Test, 1905, to Third Annual Spelling Contest, 1909.

Fig. 5

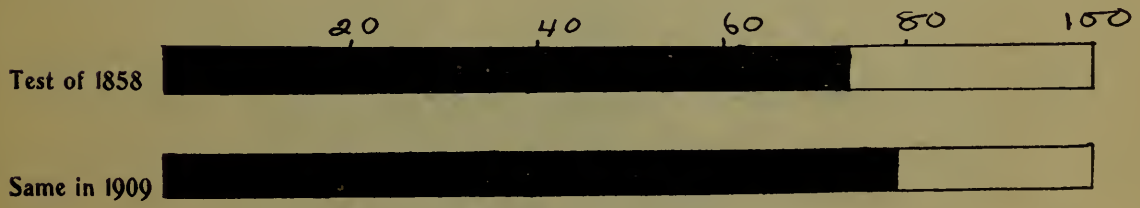

Fig. 5 Black shows per cent of efficiency for Spelling Test given in Cleveland Schools in 1858, and for same re-given 1909.

Fig. 6

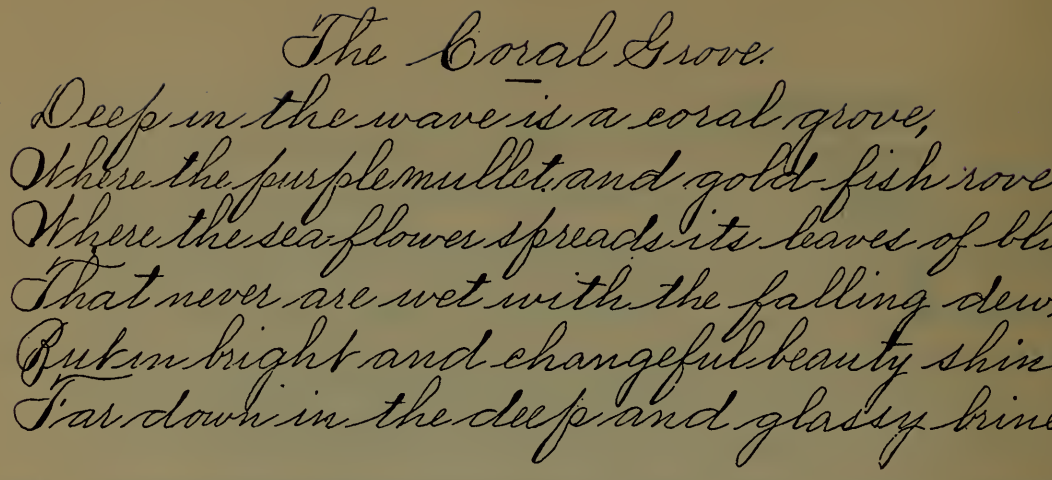

Fig. 6 Sample of Spencerian Writing. Sixth grade pupil. Taught in Cleveland Schools until 1896.

Fig. 7

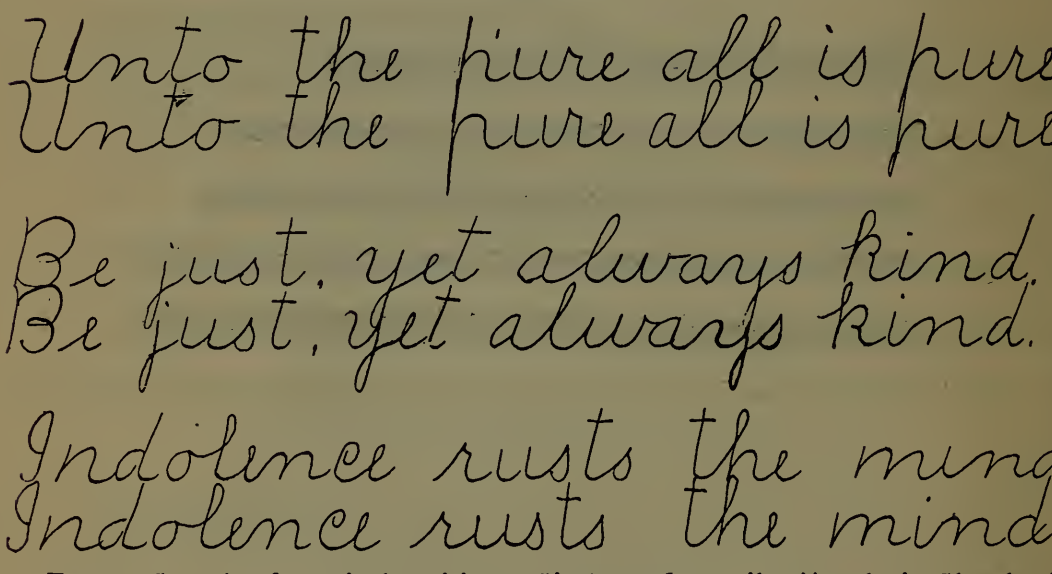

Fig. 7 Sample of Vertical Writing. Sixth grade pupil. Taught in Cleveland Schools until 1905.

Fig. 8

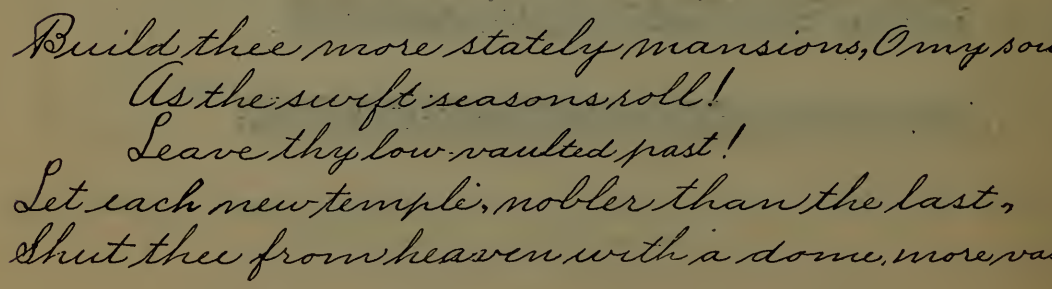

Fig. 8 Sample of Present Style. Sixth grade pupil.

Fig. 9

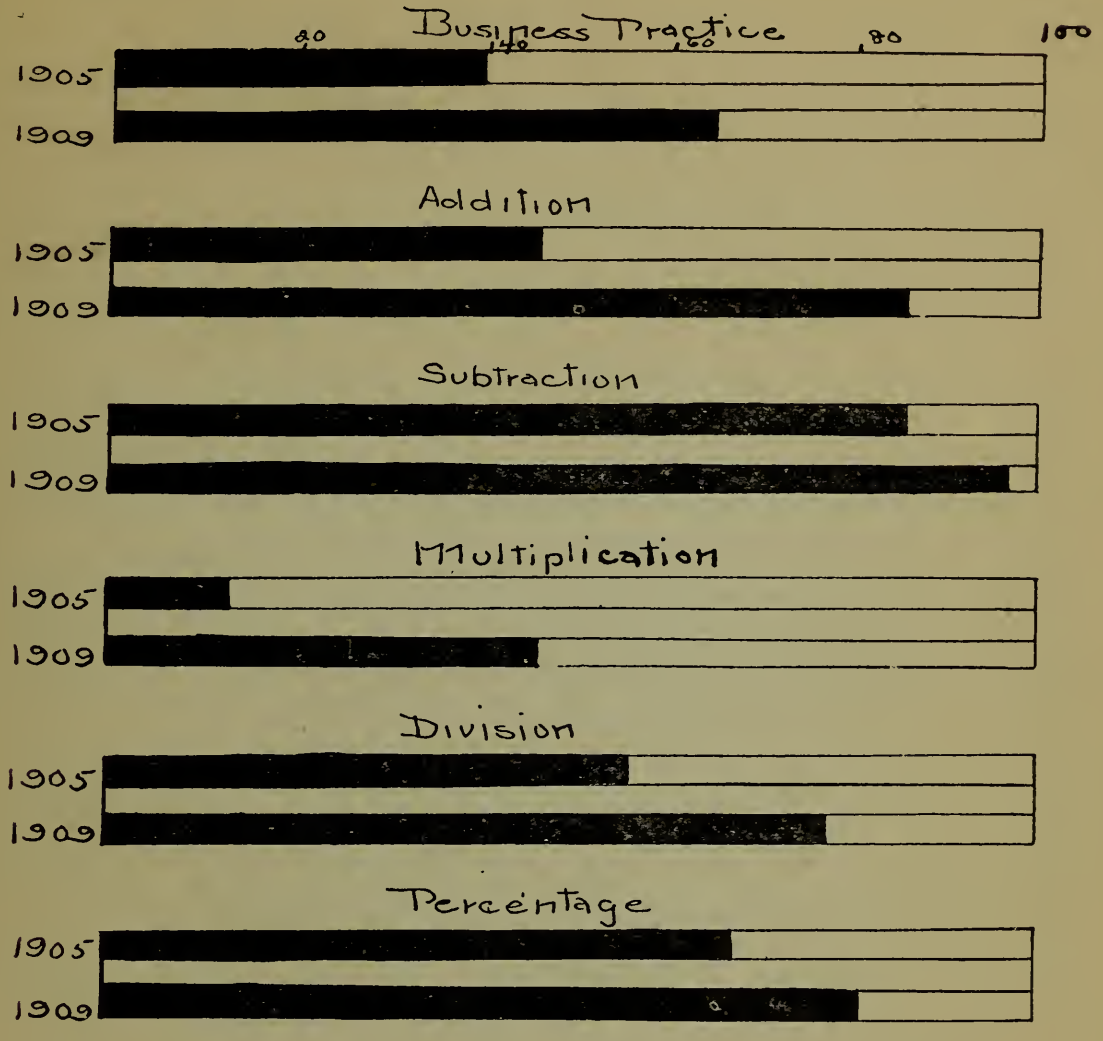

Fig. 9 Black shows per cent of efficiency for each problem of Educational Commission's Test 1905, and when re-given 1909.

Fig. 10

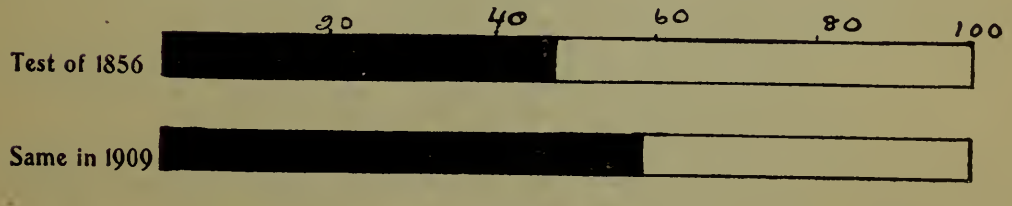

Fig. 10 Black shows per cent of efficiency for Arithmetic Test given in Cleveland Schools 1856, and for same re-given 1909.

THE THREE R'S

IMPROVEMENT IN THEM
PLACE IN PRESENT COURSE OF STUDY

To the Honorable Board of Education:—

Changes in the social, industrial, and commercial life of our city suggest that certain adjustments might be made in our elementary schools, to the end of adapting their work still further to the needs of the whole community. Whatever modifications might be made in the character of the elementary instruction given the youth of the community, whether they be destined for higher academic institutions or for early entrance upon life-pursuit, must take into account that there are certain studies essential in the education of all. These branches are reading, spelling, writing, and arithmetic—the so-called three R's, and their place in the school must be guaranteed and must be made secure against all other claims.

That changes which it may seem advisable to make in the present course of study might in no way endanger the rightful position of the three R's and particularly in view of the fact that the work of the Cleveland schools in these subjects is sometimes criticized, it was deemed wise to make clear the position now occupied in the program of studies by these branches and to make sure of the efficiency of our children in them. To this end certain investigations were undertaken, the results of which, report is herewith respectfully made:

I

WIDENING CONCEPTION OF ELEMENTARY EDUCATION

Colonial Aim

During Colonial times and the first years of our national existence, industrial and social conditions were simple. Agriculture was the chief occupation; a few followed hand trades; of business there was little, and there were only the beginnings of manufacture and of commerce. The people as a whole lived on farms or in rural groups, and mingled on terms of relative equality. Of the professions there were but the lawyer and the minister, all others were, in broad terms, laborers.

Under these conditions, the work of the elementary school was grasped in a simple and definite way. *The school existed to teach reading, spelling, writing, and arithmetic.* These branches were viewed as the essentials, as they not only supplied the keys to learning, but served the practical purposes of the parent and the citizen. With such a conception of elementary education prevailing, the whole time of the elementary school and the whole energies of the teacher were naturally devoted to

instruction in the three R's. To give knowledge in these studies became the common end of the school, and to read and spell well, to write an elegant hand, and to "cipher to the rule of three" became the standards of scholarly attainments. These were the days, if tradition were believed, when children knew how "to read, spell, write, and cipher."

View of the 60's

Between 1812 and 1865 is termed the period of national development. At all events, this is the time when our national domain was extended southward to the Gulf and westward to the Pacific; the period when the country west of the Alleghanies was settled, or open to settlement, and intercourse and trade sprang up between all parts of our land. It was the time, too, when the implications of democracy in their practical expression and workings became evident, and the dangers besetting a democratic society became apparent. In short, it was the time when the American people came into possession of their country and their institutions.

These developments had their effects upon the conception of elementary education. *It became clear, if the youth of the land were to appreciate and do their part in the preservation and continuation of democratic institutions, that they must be instructed in patriotism, taught the history of the American people, and given a knowledge of their country.* To accomplish this there were added to the program of elementary studies, geography, history, and music. It was therefore under the influence of a growing nationalism and resulting enlarged view of the work of the common school, that these branches were introduced and came to share the time of the school and energies of the child with the three R's.

Present Purpose of Elementary School

The last three or four decades have wrought fundamental changes in American life. These changes have not been so much in our institutions as in our mode of life and in the conditions of making a living. The American people no longer live upon the farm, but dwell continuously more in cities. Though farming remains the largest single occupation, we have become essentially an industrial and commercial nation, and today the great majority of wage earners are engaged in industry, trade or commerce. The conditions of gaining a livelihood are consequently very different from what they were a few generations ago. The youth of today face a situation which, if they are to support themselves and those dependent upon them, do their part in the community, and live as independent, self-respecting citizens, demands on their part practical knowledge and industrial skill. *This practical knowledge and industrial skill is not merely demanded of a few, but practically of all, for only four per cent of the bread winners of our nation are in the professions and public service, while the remaining ninety-six per cent gain their livelihood through some form of industrial or commercial pursuit.*

This transition from a rural to an urban people, from an agricultural to an industrial nation, and the resulting changes in the mode of life and in the conditions of making a living have broadened still further our conception of what constitutes a proper elementary education. *The child*

should, to be sure, know how to read, spell, write, and cipher; he should know the country and history of his people, and that he may be prepared to do the work of this age and make a living in it there is particular need of giving him such instruction as will foster his health and be helpful in industry, trade, and commerce. In short, our life has become essentially industrial and commercial and the education which fits for such life must likewise be industrial and commercial.

To prepare the child to meet the demands of this age, to equip him to perform and stand the work he will find to do, there have been introduced into the elementary school, physical training, hygiene, drawing, manual training (for boys), and household arts (for girls). The addition of these studies tends to divide still further the time and energy formerly given to the three R's.

Present Course of Study

Such are certain of the forces that have operated to give form to our present ideas of elementary education, led to the conviction that the elementary school should prepare the child both to live and to make a living, and that have given the Cleveland schools the present course of study, comprising the following branches:

Reading
Spelling
Writing
Language
Arithmetic
Geography-History
Music
Drawing
Manual Training (for boys)
Household Arts (for girls)
Physical Training-Hygiene

II

THE RISE OF CRITICISM

The widening conception of elementary education is thus ever laying increasing burdens upon the common school. The school has accepted these and has endeavored to do faithfully its enlarged task. It is, however, not surprising that its work should have within late years been subject to even virulent criticism, for the school itself faced new conditions, was summarily forced into new lines and types of instruction.

Criticism To Be Heeded

Though a part of this criticism may be ignored, there is a portion of it which should be considered, namely, *that directed against the encroachment of the non-essential branches upon the time needed for the essential studies, and that directed against the lack of efficiency in the three R's of boys and girls coming from the elementary school.* For whatever the future of the child, whether he is to continue in school, or from choice or

necessity is destined to early entrance upon life pursuit, *nothing can be of more value than a thorough knowledge of reading, spelling, writing, and arithmetic.*

Protest of the Old Against the New

The present-day school is criticized, at least by some, because the school of today differs from that of two or three generations ago. Old studies have received new content, new studies have been added, methods of instruction improved, and the ways of treating and disciplining children altered. People understand that the needs of modern life have revolutionized means of communication and transportation, that modern conditions have necessitated modifications in modes of living, but it seems more difficult for them to appreciate that changes in the social order, that this new industrial and commercial age necessitates modifications of a decided character in the school, if it is to serve rightly the community supporting it and to fit properly boys and girls for their place in a life that is essentially industrial and commercial.

The reasons and meanings of the differences between the school of the present and that of the past not being readily understood or appreciated, and people being on the whole averse to change, the present-day school comes in for criticism therefore merely because children study different things from what they used to, because they do not read the same old books and in the same old manner, because they cannot spell the same unusual and impractical words, because they do not write in the same way and use the same style of hand, because they can't solve the old type of catch problems, and don't do their arithmetic as formerly. Such criticism is, of course, the eternal protest of the old against the new and is to be expected.

Findings of Educational Commission

Criticism directed against the present-day school arises on the other hand from the fact that the boys and girls coming from it are found in the world of practice to be deficient in reading, spelling, writing, and arithmetic. "It has long been a matter of every day complaint among Cleveland business men," runs an editorial of 1906, "that the young men and women who come from the schools—even with a high school certificate—are shamefully at fault in spelling the ordinary words used in commercial correspondence, and unreliable in the simple figures of common business." The deficiency of our schools in these respects was still further emphasized by the report of the Educational Commission, which placed the burden upon those in authority of increasing efficiency in the "great studies."

Present Attitude

The Educational Commission stated that "intelligent reading, legible writing, easy accuracy in the fundamental arithmetical processes, and ability to express thought in writing or in speech, in an intelligent manner and with a reasonable degree of conventional propriety are absolutely essential, and the first work of the school." Since the report of the Commission, although a decided effort has been made to keep the schools of Cleveland abreast of the larger conception of elementary education and

to adjust their work to the needs of this age, *yet the essential studies, as will be shown, have in no wise been subordinated to non-essentials and substantial improvement has been made in the teaching of the three R's, and in the efficiency of pupils in these fundamental studies.*

III

PLACE ASSIGNED THE THREE R'S

The importance ascribed a subject or group of subjects in the elementary school is indicated in part by the time of the school assigned the given branch or branches.

Time Allotted Three R's

Table I shows the time of the elementary schools of Cleveland given to the three R's in 1858, 1878, and 1908:

TABLE I

THE THREE R'S	Per Cent of Total Time—1858	Per Cent of Total Time—1878	Per Cent of Total Time—1908
Reading Reading Spelling Language Grammar Writing Arithmetic	79.89	70.91	70.19

From Table I it will be observed that we are now devoting *70.19 of the total time of our elementary schools to the three R's, which leaves but 29.81 per cent for the other studies of the curriculum. Or, we are now devoting more than seven out of every ten days the school is in session to teaching reading, spelling, writing, and arithmetic,* and when this goes on month after month and year after year throughout the whole elementary school period, it would seem that sufficient time is given these branches, however important they may be; especially when the other studies of the school are considered in their relation to life under modern industrial and social conditions.

Despite the impression at times finding utterance, that the three R's have in late years been overshadowed by the less important studies, and that time rightly belonging to them is given to non-essentials, the three R's hold the same place in the schools of Cleveland today as thirty years earlier. For .72 of one per cent marks the difference in the time credited to the three R's in 1878 and in 1908. In view of the changes in industrial and social conditions, enhancing the value of other studies, it is surprising there is not a greater difference. However that may be, the fact should not be lost to view that *the three R's are now accorded the same importance in the course of study as three generations ago, and that the time belonging to these fundamentals is not given to non-essentials.*

Indeed, one has to go back in the history of the Cleveland schools fifty years before he finds any considerable difference in the position assigned the three R's. During the half century passed, Cleveland has grown from a place of thirty thousand inhabitants to the seventh city of the Union; from a community dependent upon agriculture and simple industries, it has become an industrial center, manufacturing a greater variety of products than any other city in America. This same time has witnessed a complete transformation in the average home, while the conditions of gaining a livelihood have become more complex and more difficult to fulfill. Notwithstanding these changes, all of which rendered practical knowledge and industrial skill of greater worth, *but 9.7 per cent less of the total time of the elementary school is now devoted to the three R's than fifty year ago*—a surprisingly small difference from whatever side considered.

Time Allotted in Other Cities

The position accorded the three R's is brought still more clearely to view, if the time credited to these subjects in the Cleveland schools is compared with that given them in other cities.

Table II shows the per cent of the total time of the elementary schools of ten cities given in 1908 to the three R's, the average per cent of total time assigned, also the per cent of total time allotted in Cleveland:

TABLE II

THE THREE R'S	Boston	New York	Chicago	Rochester	Cincinnati	Indianapolis	St. Louis	Milwaukee	Kansas City	San Francisco	Average Per Cent	Cleveland
Reading..... Reading Spelling Grammar Language Writing..... Arithmetic.....	62.80	51.71	56.16	57.10	62.51	63.15	60.87	63.70	61.16	67.08	60.62	70.19

Cleveland, it will be observed, assigns to the three R's of the total time of her elementary schools *7.39 per cent more than Boston, 18.48 per cent more than New York, 14.03 per cent more than Chicago, 13.09 per cent more than Rochester, 7.68 per cent more than Cincinnati, 7.04 per cent more than Indianapolis, 9.32 per cent more than St. Louis, 6.49 per cent more than Milwaukee, 9.03 per cent more than Kansas City, and 3.11 per cent more than San Francisco, the highest in the list. Not only do we devote more of the time of our schools to the three R's, by 3.11 per cent than any of the above cities, but we assign to them 7.57 per cent more time than the average in these ten leading cities of the country.*

Fig. 1

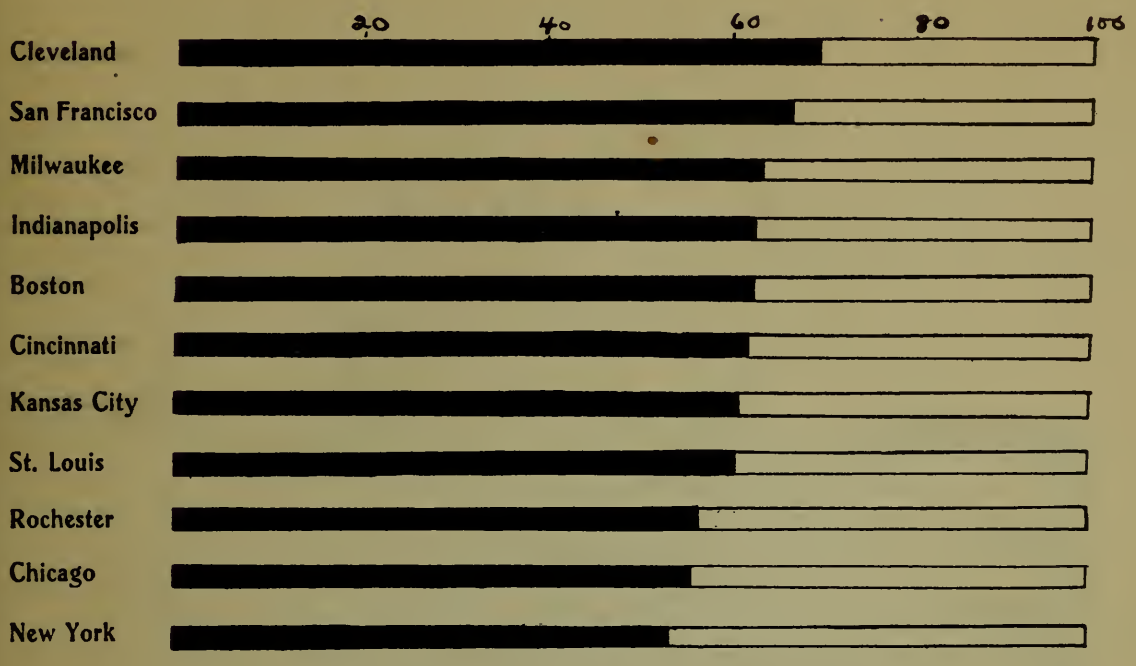

Fig. 1 **Black shows part of total time of elementary school of above cities given to the three R's.**

Commanding Place in Cleveland Schools

In view of the position now accorded the three R's in the present course of study, in view of the fact they hold the same place now as thirty years ago, in view of the fact that fifty years have witnessed a reduction of but 9.7 per cent in the time devoted to these studies, and in view of the fact that we give 7.57 per cent more of the total time of our schools to them than the average in the ten leading American cities, it is evident the three R's occupy *a commanding position in the Cleveland schools and are in nowise being displaced by the other studies, or by the so-called non-essentials.*

IV

IMPROVEMENT IN READING

Improvement in a study like reading cannot be indicated in per cents. There is nothing absolute in it as there is in spelling and arithmetic; a word is either spelled right or wrong, and so in the solution of a problem. For this reason no two persons will give the same mark to the same work in reading, consequently improvement in it can be indicated in a general way only.

Status in Course of Study

Though other branches have been introduced into the curriculum, and have come to share the attention of the teacher and the energies of the child, reading, throughout the history of the Cleveland schools, has been and is today regarded the most important study. To it has always been given a large portion of the total time of the school, and though the

addition of other studies has lessened that assigned other branches, *more time is devoted to reading in the Cleveland schools today than thirty years ago, for in 1878 but 23.41 of the total time of the school was allotted it, whereas we now give 26.31 per cent; in a word, we now devote even more than every fourth day of our schools to reading,* to say nothing of additional time given to supplementary work. To put it in another way, of the $1,520,250, the total cost of instruction—not including manual training or kindergarten—for 1908, more than one-fourth was spent on teaching boys and girls how to read.

Fig. 2

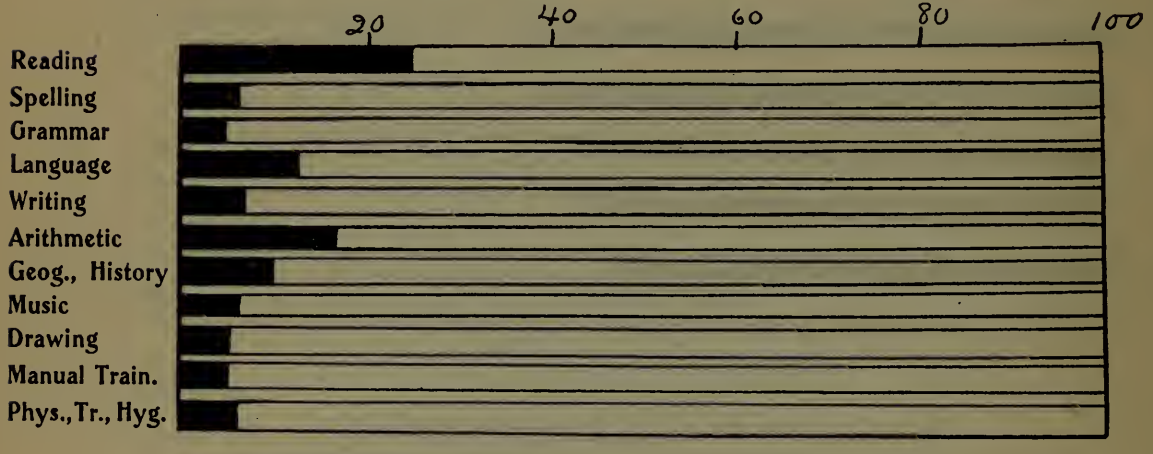

Fig. 2 **Black shows part of total time of elementary schools of Cleveland devoted to Reading and to each of the other studies.**

Not only is 10 per cent more of the total time of the Cleveland schools credited to reading than to any other study, arithmetic not excepted, but we give 2.83 per cent more than the average in ten of the most important cities of the country, devoting more time than Boston, 8.54 per cent more than Rochester, 12.18 per cent more than Cincinnati, 8.51 per cent more than Indianapolis, 8.41 more than St. Louis, 3.52 per cent more than Milwaukee, and 11.81 per cent more than Kansas City. In short, Cleveland leads the country in the amount of time allotted reading.

Though the amount of time devoted is a factor, it in no wise indicates the effectiveness of instruction in a particular branch. This depends upon the aim and purpose of the work, the materials used, and the methods of teaching employed, and it is more especially in these directions that improvements have been made in the reading of our schools.

Aim Made Practical

Reading as now employed stands, to be sure, for certain attainments in oral expression, but it stands more particularly for a study of literature and for power in extracting thought and feeling from the printed page. To be able to read with dramatic and elocutionary effect is, of course, an accomplishment; it is, however, an ornament rather than a necessity, and of little worth in practical life. Decidedly more necessary and useful is the ability to gain thought and feeling from the printed page, the ability

to read with intelligence household recipes, shop directions, the daily paper, magazines, and current books, for it is such ability that is needed in the home, in business, and in the common affairs of life. *To teach reading so as to develop that power of interpretation and expression useful in practical affairs and daily life, is, in a word, being made the purpose of this branch in our schools.*

Materials Adapted and Enriched

Gradual changes are also being made in the selections studied. Many of the pieces in the old readers were beyond the mental grasp of the child; they made no appeal to his instincts and present needs, and in consequence were relatively valueless as materials of instruction. In the second place, though certain of these selections were of the highest literary merit, a considerable portion of them taught no truth and were unworthy of attention. To counteract these weaknesses increasing care has been exercised on the one hand to select only such material as is adapted to the mental ability and immediate needs of the child, and this is the reason why the readers of the primary grades include fairy tales, myths, legends, folk lore, tales of chivalry, and historical stories. On the other hand, a distinct effort has been put forth to use only those selections embodying an artistic, social, or moral truth of worth under present conditions of life, for it is upon *reading more than upon any other study of the school we must depend to inculcate those social and moral ideals fundamental to right personal living and basic in the life of the social whole.*

The Dictionary Emphasized

Not only have the materials of reading been enriched, but the instruction has been extended to include considerable supplementary reading to the end that children may become acquainted with a number of good books and acquire the reading habit. Complying with the recommendation of the Educational Commission, each class room in all grades above the sixth has been provided with Webster's International Dictionary, each class room in grades one to six inclusive, with Webster's Collegiate Dictionary, while pupils above the fifth grade purchase Webster's Academic Dictionary, which will not only serve for the remaining portion of the elementary course, but for the high school as well. *Children are encouraged in the constant use of these, that they may add to their vocabularies, work out their studies, and learn self-reliance.*

Methods Rendered Attractive and Effective

Attention has also been given to methods of teaching reading. The methods of a generation or two ago began by teaching the child his letters, then the syllables, ab, ib, etc. These were then combined into words of one, two, three, and even of seven and eight syllables, great pains being taken to teach the spelling of each new word. Whether the child knew the meaning and use of the words learned was of little consequence. With a goodly number of words thus mastered, the child began to read. It mattered not whether he had thoughts and feelings to express or gave expression to any, the important thing was that he gain immediate control of the tools of reading. Methods now in use are opposite both in spirit

and point of approach. The child is told a story that appeals to his instincts, intelligence, and imagination; he is led to repeat this in his own way that he may gain power and facility in oral expression. He is also led to make the story the basis of a game, to give expression to one part of it through a drawing, to another through paper folding or other constructive activities; *all of which is done that the child may have vivid appreciations, clear ideas, and strong feelings.* With thoughts and feelings to express, with the motive for learning to read aroused, the formal work begins. Emphasis is, however, placed upon the sentence and upon the word as the means of giving expression to ideas and feelings, while the spelling of the words employed is at first taught but incidentally. The parent should therefore not be disturbed when the child during the first few months of school life seems interested in myths, legends, and stories, interested in drawing and manual constructions, in the making and reading of sentences, but more or less oblivious to the old-fashioned primer and to spelling. The child is acquiring that which is of more value and which will later enable him to master with ease and rapidity, the mechanics of reading and the details of spelling.

Equally different are the methods employed in the upper grades. In the old reading, the emphasis was placed upon oratorical or elocutionary effect. Many a child was able to read from a mere mechanical point of view that which he scarcely understood and what he did understand was due to absorption rather than to direct instruction. *In contrast, the child now studies the selection as literature. Care is taken to bring him into its atmosphere, to bring him to the beauty, thought, and feeling embodied therein.* Then and then only is he permitted to read it orally. Even then he is not urged to strain after dramatic effect, but asked to read with the view of giving simple and intelligent expression to the thoughts, feeling and sense of beauty acquired through his study. In short, interpretation and appreciation are made of first importance, *which renders reading an aid to all the other studies of the school.*

Results

It is therefore through giving reading a more direct and practical purpose, through a better adjustment of the selections to the abilities of the child and an enrichment of the materials used, through encouraging the reading and dictionary habit, and through rendering methods of teaching real and attractive, that improvements have been made, and *the boys and girls leaving our schools given a better knowledge of the principles and ideals of life, rendered more able to extract thought and feeling from the printed page, and more efficient in the power of simple expression.*

V

IMPROVEMENT IN SPELLING

Educational Commission's Test

The Educational Commission, in order that it might more accurately judge of the work of the schools, gave a spelling test, in the winter of 1905, of fifty words to the eighth grade pupils of four schools. The words

given were such as, in the mind of the Commission, children completing the common school should be able to spell. Of the one hundred and forty-four pupils taking this examination only one spelled all the words correctly, while the combined errors of the one hundred forty-four were 1,887, or an average of 13.1 misspelled words per pupil. The Educational Commission made no direct comment upon these results, but a grade of 73.79 per cent in efficiency, and a deficiency mark of 26.21 per cent were sufficiently suggestive to those interested in giving the youth of our city a thorough education in the fundamentals.

Interest in Spelling Aroused

Those in authority determined that, if possible, such deficiency in spelling should be corrected. With the opening of schools in the fall of 1906, increased attention was given to the aim, materials, and methods of teaching spelling, and increased care was exercised to arouse the teachers to the importance of the subject and to excite an interest and a pride on the part of children in being good spellers. On December 10th there was held what was termed the First Spelling Contest, or the first test of the new work in spelling. This examination consisted of fifty written and five oral words, respectively, for the children of the fifth, sixth, seventh, and eighth grades; the test words for each grade were selected from their spelling work of the term. This spelling contest was followed, May 24th, 1907, by an Annual Contest in which all the children of the four grammar grades participated. The test for each grade consisted of fifty words to be written and five words to be spelled orally, or a total of fifty-five. The words used were selected from the work of the year for the respective grade and were those experience has shown are the most often misspelled. Similar annual spelling contests were held March 23rd, 1908, and May 25th, 1909.

Results of Spelling Contests

Table III shows the number of children participating in the Educational Commission's test, the number of words given, the average number misspelled per pupil, and the average per cent of efficiency; also the same facts for the first and the three annual contests in the eighth grade:

TABLE III

	Pupils Examined	No. of Words	Avg. No. Misspelled Words Per Pupil	Avg. Per Cent of Efficiency
Commission's Test*	144	55	14.414	73.79
First Spelling Contest	3148	55	7.287	86.75
First Annual Contest	2806	55	6.116	88.97
Second Annual Contest	3494	55	1.589	97.11
Third Annual Contest	3529	55	1.675	96.96

It will be observed that the average number of misspelled words per pupil in tests of fifty-five words has been reduced for the eighth grade from 14.414 to 1.675, an average decrease per pupil for all eighth grade

*Translated into terms of fifty-five words.

children of 88.37 per cent, or in other words, *the children taking the Commission's test in 1905 misspelled on the average 8.6 times more words than the children taking the Annual Contest in 1909.*

Fig. 3

Fig. 3 **Black shows part of fifty-five words misspelled in each test from Educational Commission's Spelling Test, 1905, to Third Annual Spelling Contest, 1909.**

On the other hand, the average efficiency in spelling, as based upon these tests, has risen from 73.97 per cent to 96.99 per cent, *an average increase for each child of the eighth grade of 23.17 per cent, which is an average gain in efficiency per pupil of 31.39 per cent.*

Fig. 4

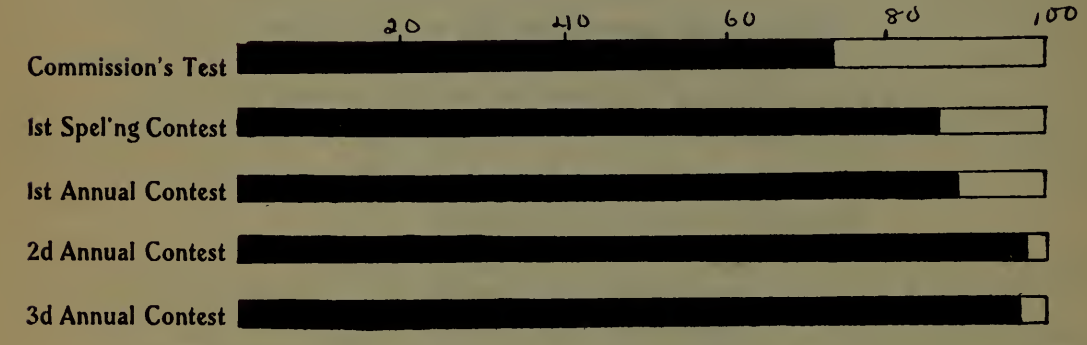

Fig. 4 **Black shows increase in efficiency from Educational Commission's Spelling Test, 1905, to Third Annual Spelling Contest, 1909.**

The Chicago Test

This increase in efficiency rests upon the assumption, of course, that these different tests were equally representative, and equally difficult, which is believed to be true. There is, however, further evidence that the children of the Cleveland schools are efficient in spelling. On December 13th, 1907, a list of twenty words was submitted to all eighth grade pupils. This list was taken from Chicago, where it was used in eight different eighth grade schools.

The best record of any eighth grade in Chicago with this list was 84 per cent, and the lowest 57 per cent. The best record of any Cleveland eighth grade was 93.66 per cent, the lowest 74 per cent, while the average for the seventy-two schools, taking the test, was 84.17 per cent, *a better average record for all our schools than the individual record of the best eighth grade in Chicago.*

N. E. A. Spelling Contest

The efficiency of Cleveland children was again put to trial in the Spelling Contest of 1908, held under the auspices of the National Education Association—Erie, New Orleans, Pittsburg and Cleveland participating, each being represented by a team of fifteen spellers, the best of their respective city. The contest consisted of one hundred written and five oral words, or one hundred five words per contestant; that is, each team spelled fifteen hundred seventy-five words. The total written and oral errors was as follows: *Erie 85, New Orleans 66, Pittsburg 47, Cleveland 40.* The Cleveland team having the smallest number of errors was declared the winner, no slight tribute to our schools and to our instruction.

Test of 1858 Re-given

Perhaps even a severer test of the efficiency of children of today was the giving to all eighth grade schools, May 17th, 1909, the spelling examination which was set to the corresponding grade of pupils of the Cleveland schools, July, 1858. The test consisted of twenty words. Table IV gives the number of pupils examined, the average number of misspelled words, and the average per cent of efficiency in each case:

TABLE IV

	Pupils Examined	Avg. No. Misspelled Words Per Pupil	Avg. Per Cent of Efficiency
Examination of 1858	143	5.215	73.92
Same in 1909	3240	4.307	78.46

The children of 1909 were at a disadvantage in taking this examination, for the words employed were selected from the spelling work of the year and were for this reason familiar to the children of 1858. Notwithstanding this, *the children of 1858 misspelled on the average practically one more word per pupil than those of 1909, giving the children of 1909 a better average efficiency mark by 4.54 per cent, which represents an average gain in efficiency of 6.12 per cent.* In a word, judged upon the basis of this test, *the children of 1909 are better spellers than the children of 1858, the "golden age of spelling."*

Fig. 5

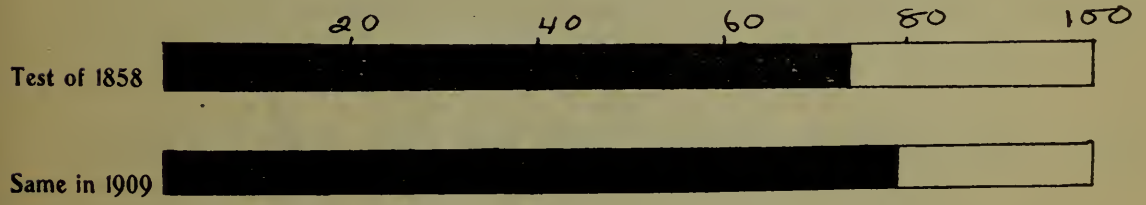

Fig. 5 **Black shows per cent of efficiency for Spelling Test given in Cleveland Schools in 1858, and for same re-given 1909.**

Inferences

Taking the evidence at hand, it is sufficient not only to make clear

that *there has been great gain in the work in spelling* since the test of the Educational Commission, but to establish also that *we lead the country in this respect, and that spelling is better taught and better results are secured now than ever before in the history of the schools of Cleveland.*

VI

IMPROVEMENT IN WRITING

Spencerian System

For more than a quarter of a century prior to 1896, some form of Spencerian writing was taught in the schools of Cleveland. The older type of Spencerian writing was on the whole a florid style in which fine lines, flowing curves, delicate shades, and complex letter-forms prevailed. Gifted children became excellent penmen under this system, but the attainments of the majority were indifferent; their writing lacked speed and simplicity. Furthermore, children on leaving school soon fell away from the standards of the copy book and acquired a new hand more fitted to practical usage. Business men also insisted upon a more simple and direct style.

Fig. 6

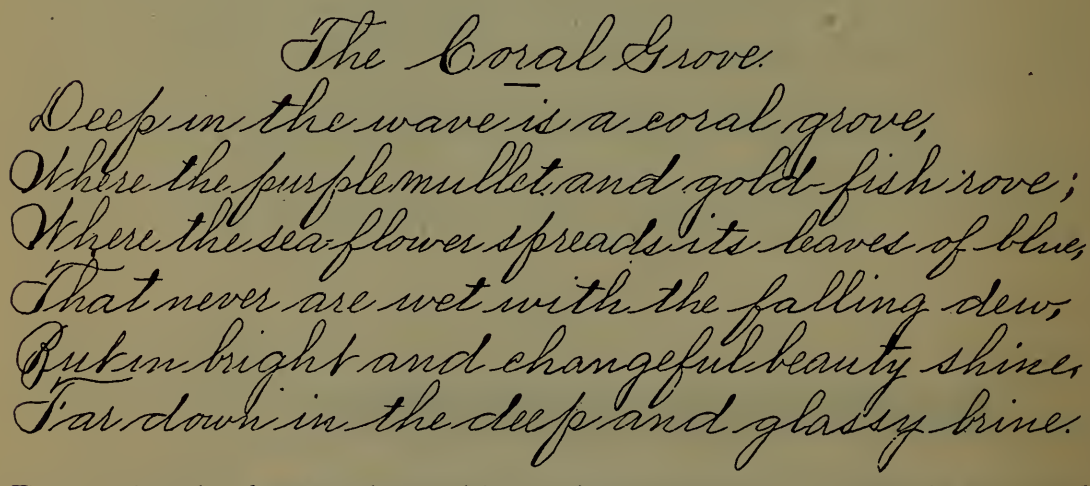

Fig. 6 Sample of Spencerian Writing. Sixth grade pupil. Taught in Cleveland Schools until 1896.

Introduction of Vertical System

The results attained with the Spencerian system then used being unsatisfactory, the vertical system was introduced in 1896. The chief claims of this system are its simplicity and its legibility.

Fig. 7

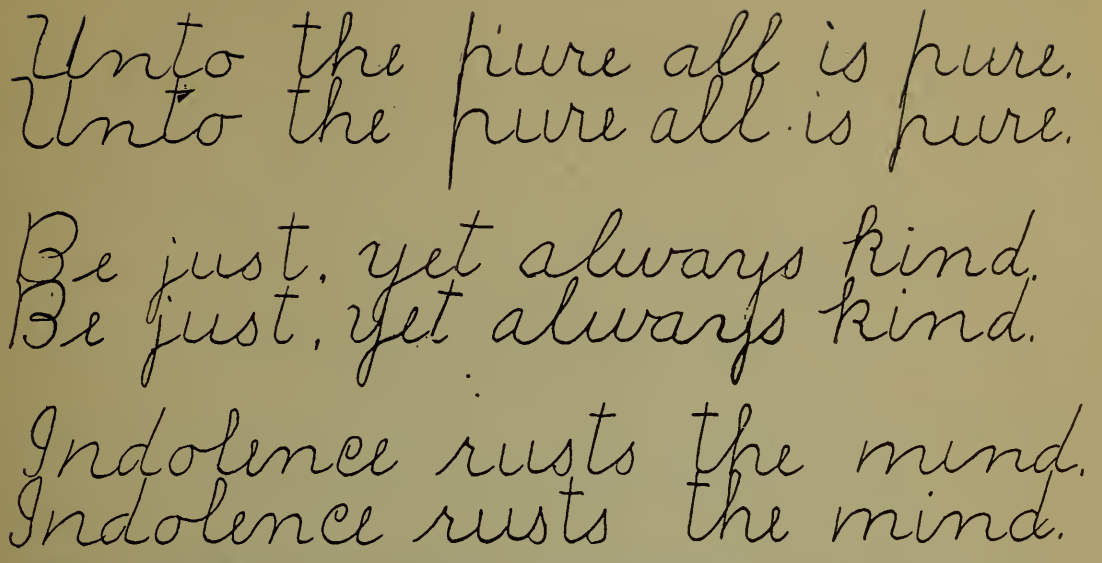

Fig. 7 Sample of Vertical Writing. Sixth grade pupil. Taught in Cleveland Schools until 1905.

That vertical writing has these characteristics cannot be questioned. Experience, however, has shown that under this system of instruction children fall into habits detrimental to a running hand, and not only lack fluency and speed, but lose their individuality. So unsatisfactory had the vertical system become by 1905 that a special committee of the Board of Education was appointed to investigate the system of writing taught.

The Committee sought information from all sources. The following is a summary of the report of the Supervisor of Writing: "Probably two-thirds of the pupils write a back-hand. Speed tests in the grammar grades show that the slowest and most labored specimens are written by those who write a vertical hand. Teachers in the higher grades are dissatisfied, while parents complain of vertical writing, and business men condemn it. Eight years of careful observation and experience with the present system fully convinces me that we are losing ground." In the same vein ran the report from the Chamber of Commerce: "The vertical hand is not adapted to business purposes, and it is a handicap to the youth leaving school and seeking employment." On the ground of such testimony, the committee recommended a change.

The Practical Writing System

The committee was of the opinion that "a business style of writing with such letter-forms and connections as will produce legibility, speed, and individuality should be taught." The recommendation of the committee led, March 6, 1905, to the adoption of "The Practical Writing System."

With this system as a basis, there is now being developed in our schools a style of writing slightly slanted and with clear and simple letter-forms. Everything has been cut away that interferes with simplicity, legibility, fluency, and speed, giving a type of penmanship *in accord with present taste, and adapted to private use and business needs, and such*

that when pupils leave school, they will not feel inclined or find it necessary on going to work to change their hand. In a word, the time spent in the school on writing is being made to count for something in life.

Fig. 8

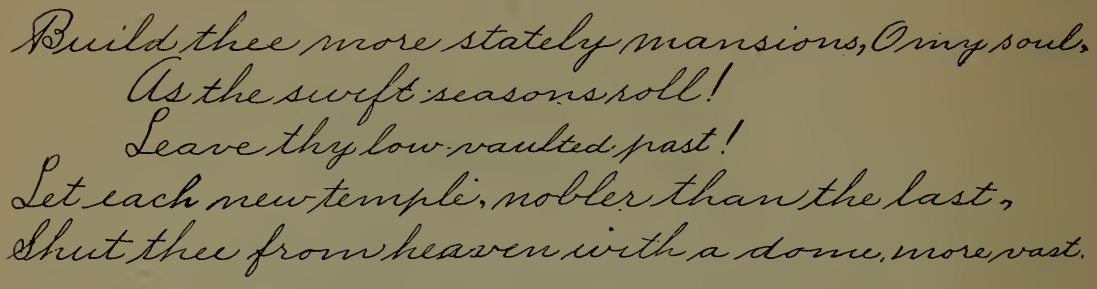

Fig. 8 Sample of Present Style. Sixth grade pupil.

Fore=arm Movement

Not only has a new system of writing been adopted, but new methods of teaching have been introduced. Movements and habits making for good writing later in life are emphasized rather than immediate, labored, and stereotyped results. Consequently, *that proper writing habits may be inculcated, pupils are exercised in a free fore-arm movement which experience has taught is the most conducive to fluency, legibility and rapidity. Aside from free fore-arm movement and proper position and posture, uniformity of size, uniformity of slant, and uniformity of spacing only are insisted upon.* This gives every child opportunity to develop the type of writing suited to his individuality, and only those expressions of individuality are suppressed which interfere with the acquisition of a clear hand and with the attainment of ease and speed.

Supervisors Trebled

To the end that the work in writing might be strengthened, the supervisory force has been trebled and the attention of the supervisors directed to securing proper movements. They give illustrative lessons, instruct the children, mark practice papers, and give regular movement tests. All of which centers instruction upon the fundamentals in the development of a good and useful hand.

Exhibits Installed

That greater interest might be aroused on both the part of teachers and pupils in this essential study, annual exhibits of the writing of all the children of each school have beeen inaugurated, and that both teachers and pupils might have a basis of comparison, exchange writing exhibits between different schools have been established. The enthusiasm aroused by these exhibits and the interest manifested in them by the public cannot help but react to the good of this work.

The Outcome

The introduction and development of a simple, legible style of writing adapted to private purposes and business demands, the massing of instruction upon the fore-arm movement—the basis of fluency and speed, making allowance for taste and individuality, trebling the supervisory force, and stimulating interest by annual writing exhibits, are the forward strides made of late, and they open, as it is believed, a new period in efficient writing to the children of our schools.

VII

IMPROVEMENT IN ARITHMETIC

Place Assigned Arithmetic

Arithmetic, along with reading, has always held a place of importance in the Cleveland schools. Though the introduction of other branches has brought to other studies a reduction in the attention given, half a century has made but slight inroads upon the position of arithmetic. 4.18 per cent marks the difference in the total time of the school allotted to it in 1858 and now, and .45 of one per cent is the measure of the difference in the emphasis given at present and in 1878. In a word, *arithmetic occupies the same place in the program of studies today that it did thirty years ago.*

Apart from reading and language, *almost as much time is devoted to arithmetic as to any three other studies of our elementary schools.* To it is awarded almost twice as much as is credited to both geography and history, three times as much as is assigned to music, four times as much as is allotted to drawing or manual training or household arts, and three times as much as is spent on physical training-physiology and hygiene. Indeed, *one whole day out of every six is given to this study.* In a word, to it is devoted, wisely or unwisely, *one-sixth of the elementary school life of our children.*

Not only is there spent on arithmetic, apart from reading and language, almost three times the attention given to any other study, but there is allotted it of the total time of our elementary schools, *3 per cent more than New York, 5.38 per cent more than Chicago, 4.43 per cent more than Indianapolis, 1.42 per cent more than St. Louis, 1.69 per cent more than Milwaukee, and 1.3 per cent more than Kansas City. In fact, more time is credited to arithmetic in Cleveland by 1.25 per cent than the average in ten of the most important cities of the country.*

Results in Arithmetic Questioned

Though a large part of the time of our schools has always been allotted to arithmetic, the results derived have not always been correspondingly good. To test the efficiency of our pupils in this branch, the Educational Commission gave in 1905 an examination, to four eighth grade schools, covering the fundamental operations and their application to percentage. The results of this test were such as to suggest that arithmetic needed serious attention. Effort was made at once to render the instruction in this subject more practical, to limit it to topics more directly related to industry and business, and to render methods more

concrete and effective, to the end that the fundamental operations be emphasized and pupils taught their application to business practice.

Commission's Test Re-given

That it might be known whether or not progress was being made in the teaching of arithmetic, the examination of the Educational Commission was re-given February 2nd, 1909, to all the eighth grade schools of the city. This examination, having been used in only four schools by the Commission, was unknown to all but a small per cent of our teachers. Neither teachers nor pupils were in any way prepared for it, and it was not known that this was the Commission's test until after the papers of the pupils were corrected and delivered to the office. The examination consisted of one problem each in business practice, addition, subtraction, multiplication, division, and percentage.

Table V gives the number taking the respective problems in 1905 and in 1909, the average efficiency in both tests for each problem, also the average improvement in efficiency for each problem over 1905:

TABLE V

	Pupils Examined		Average Per Cent of Efficiency		Average Per Cent of Improvement over 1905
	1905	1909	Com's. Test	Our Test	
Business Practice	144	3350	39.583	66.208	66.21
Addition	190	3350	45.263	85.791	89.53
Subtraction	193	3350	88.601	96.567	8.99
Multiplication	191	3350	12.041	46.089	282.76
Division	193	3350	55.440	77.850	40.42
Percentage	192	3350	67.708	80.985	19.60

It will be observed that in no case was there a failure of the children of 1909 to make a gain over the children of 1905. These gains vary from 7.97 per cent in subtraction, to 40.53 per cent in addition.

Fig. 9

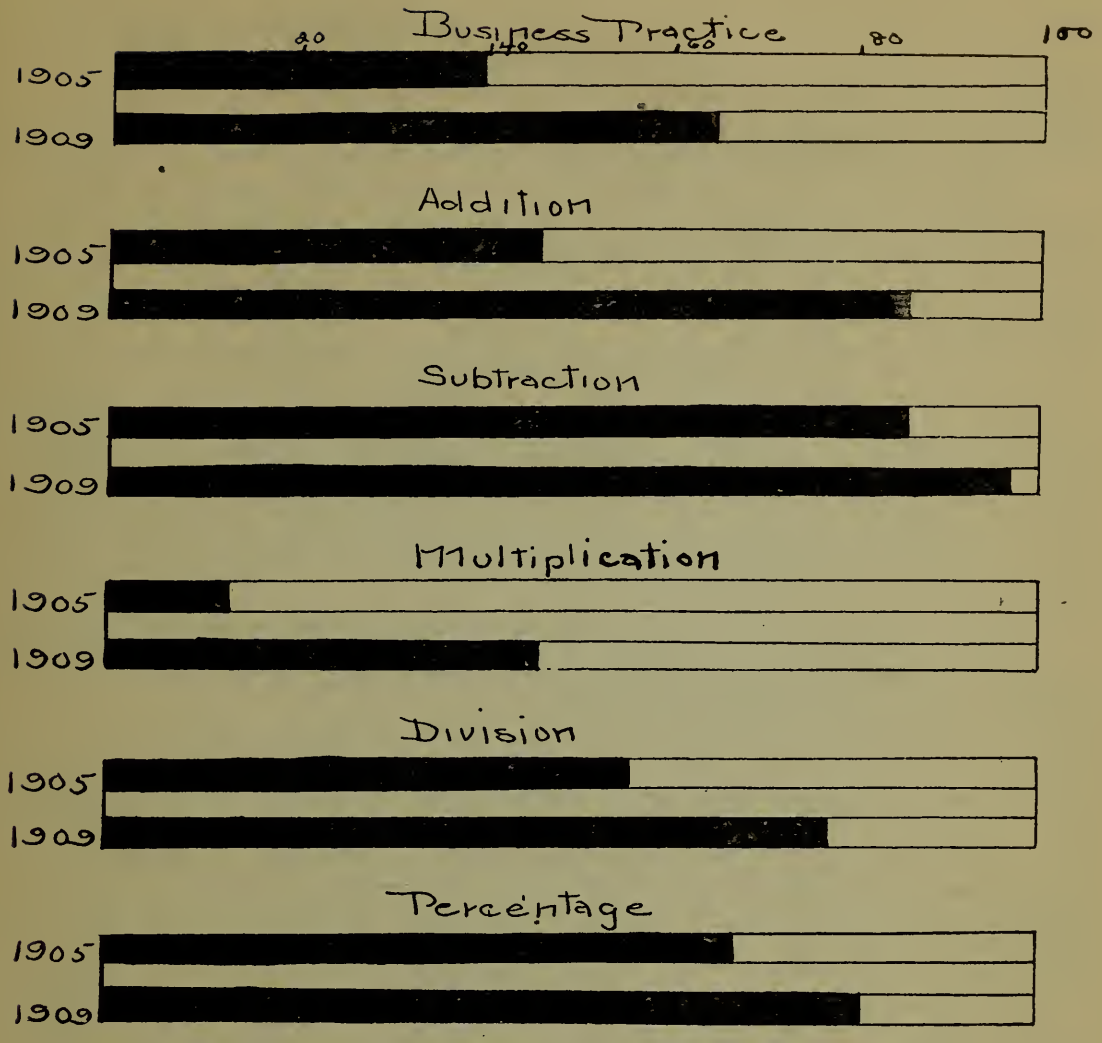

Fig. 9 **Black shows per cent of efficiency for each problem of Educational Commission's Test 1905, and when re-given 1909.**

If these average gains in efficiency per pupil are translated into terms of improvement, the children of our schools improved, between 1905-1909 on the average *in business practice 66.21 per cent, in addition 89.53 per cent, in subtraction 8.99 per cent, in multiplication 282.76 per cent, in division 40.42 per cent and in percentage 19.60 per cent, evidence that the fundamental operations and their practical applications are not being neglected in the Cleveland schools at the present time.*

Table VI gives the number of pupils examined, the average number of incorrect answers per pupil, and the average per cent of efficiency in the examination as a whole in 1905 and 1909:

TABLE VI

	Pupils Examined	Avg. No. Incorrect Answers Per Pupil	Avg. Per Cent of Efficiency
Commission's Test 1905	184	2.875	47.96
Same 1909	3350	1.465	75.58

Taking the test as a whole, the children of 1905 made, it will be observed, *twice as many errors on the average as the children of 1909, while the average gain per pupil in efficiency over 1905 for the test as a whole is 27.62 per cent, representing an average improvement of 57.58 per cent.*

Test of 1856 Re-given

That still another basis of judgment might be had, there was given, May 28th, 1909, to all eighth grade pupils, the same examination in arithmetic as was given July, 1856, to the twenty best pupils in each of the grammar schools of that year. These twenty best pupils were candidates for admission to the high school and correspond to eighth grade pupils of today.

Table VII gives the number of pupils taking the examination, the average number of incorrect answers per pupil, and the average per cent of efficiency for both 1856 and 1909:

TABLE VII

	Pupils Examined	Avg. No. Incorrect Answers Per Pupil	Avg. Per Cent of Efficiency
Examination of 1856	162	10.358	48.21
Same 1909	3081	8.074	59 63

This examination of 1856 was a difficult one for the children of the present. Not only were the problems of a different character from those now used, but three of them came under parts of arithmetic which we no longer teach, and could only be solved by our children through the independent application of their general power in arithmetic. This was done in a few cases.

Despite this heavy handicap, it will be observed, *that the children of 1856 made on the average two more errors than those of 1909, and that the latter made a better average grade in efficiency than the former by 11.42 per cent.*

Fig. 10

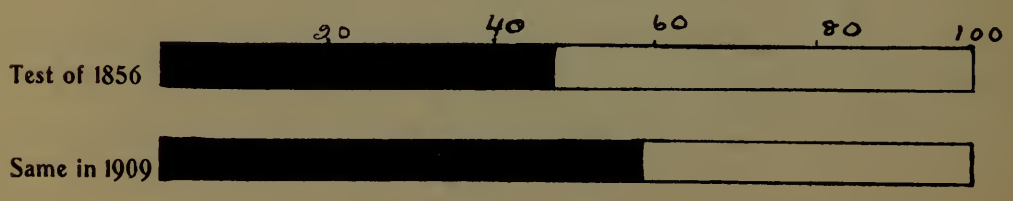

Fig. 10 Black shows per cent of efficiency for Arithmetic Test given in Cleveland Schools 1856, and for same re-given 1909.

In other words, the children of 1909 show an average improvement in efficiency in arithmetic over those of 1856 of 23.69 per cent. This improvement was made moreover in the face of the fact that in 1856, 20.58 per cent of the total time of the school was devoted to arithmetic against 16.40 per cent at present. *Evidence that less time may be given to arithmetic without loss to efficiency, when it is correlated with geography, history, drawing, manual training, and household arts; that is, when it is applied to practical activities and constructions.*

Increased Efficiency

In view, therefore, of the outcome of re-giving the test of the Educational Commission and re-giving the examination of 1856, it would seem fair to conclude, *that marked progress had been made in the teaching of arithmetic since 1905, and that the children now graduated from the grades are more efficient in this fundamental study than those coming from our schools a half century ago, a time when children were supposed "to know arithmetic."*

VIII

THREE R'S IN THE NORMAL SCHOOL

Not only has a distinct effort been put forth to improve instruction in the fundamentals, but attention has also been directed to securing for our new teachers a better preparation in the essentials.

For a number of years past, little consideration was given in the normal school to the three R's. Spelling found no place on the program of studies, there was no academic instruction in arithmetic, and writing fell into the background. Our new teachers consequently had no preparation in these branches other than that received in the grades, and as a result were unprepared on entering the schools to give instruction in these studies.

In the reorganization of the normal school in 1908, the three R's were assigned a large place in the new course of study. *Though the hours credited to English were reduced, the time assigned to a direct preparation to teach reading was increased, spelling was introduced, more hours by 60 per cent were allotted to arithmetic, while the time given writing was more than doubled.*

With the three R's restored to their rightful place in the normal school, with the young people graduating from it and entering our schools as teachers well-grounded in the essentials, there is reason to believe that there will be greater improvement in the efficiency of our children in the three R's in the future than there has been in the immediate past.

IX

CONCLUSIONS

In view of the time allotted the three R's in our schools, in view of that accredited these branches in other cities of like size, and in view of the time formally assigned them, the three R's occupy a commanding

position in our course of study, and their position is not being encroached upon by the less important branches. All things considered, Cleveland leads the country in the place assigned these studies in the program of the school.

In view of the changes making for the better in reading and writing, and in view of the increased efficiency in spelling and arithmetic shown by the children now leaving our schools over those of 1905, and over those of 1858, and 1856, great improvement has been made during the last four years in the teaching of the three R's and in the results obtained.

In view of the increased emphasis now placed upon the essentials in the normal school, and consequently in the preparation of our teachers, even greater improvement in efficiency in these fundamental studies may be expected in the future.

In view of the increase in efficiency in reading, spelling, writing, and arithmetic made since 1905, it is evident that our elementary schools can do the larger work imposed upon them by present conceptions of elementary education; that is, they can adapt their work to the needs of the whole community, can give the rising generation that practical knowledge, that power in application, and that skill in execution most helpful in meeting the demands of present social, industrial, and commercial life. In a word, they can teach geography, history, music, drawing, manual training, household arts, and physical training, and at the same time, when due care and attention are exercised, can give the on-coming generation a better grounding in reading, spelling, writing, and arithmetic, than has ever before been given in the educational history of Cleveland.

The progress made during the last years in increasing the efficiency of our children in the essential branches of the school, is the result of a combined effort on the part of the teaching body. To our supervisors, principals, and teachers is due the credit. For their endeavors they have my hearty thanks, and it is my hope that together we may arouse still greater interest in the three R's and bring about still greater efficiency on the part of our children in these fundamental studies.

Respectfully submitted,

W. H. ELSON,
Superintendent of Schools.

LIBRARY OF CONGRESS
0 019 878 662